Report Date: 27 Feb 2012
Summary Report for Crew Drill Drill Task
Drill Number: 05-5-D0014
Drill Title: Launch a Bridge Erection Boat (BEB)
Status: Approved
Status Date: 27 Feb 2012

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**Drill Data**
**Proponent:** 05 - Engineers (Collective)
**Drill Type:** Crew Drill
**Approved:**
**Obsolete:**
**Restricted Read:** No
**Route To CTD Reviewer:** Yes
**CTD Concurrence:** Yes
**CTD Comments:** Concur

**Safety Level:** Low

**Conditions:**

The element is supporting a gap crossing operation. The maneuver force is providing security while the element prepares the launch and crossing sites. Some iterations of this task should be performed in MOPP.

**Standards:**

The Bridge Erection Boat (BEB) is launched into the river without damaging any equipment.

**Drill Statements:**

## DANGER

When launching boat, side to side slope must not exceed 8% or 5 degrees. Failure to comply may result in injury or death to personnel and damage to equipment.

## WARNING

Prior to performing transporter operations, ensure a site survey is conducted. Failure to meet all site requirements for a given launch method may result in damage to equipment or possible injury or death to personnel.

## CAUTION

Hazard to personnel and equipment is increased if boat is launched at less than ideal site. Site must be inspected and prepared to be within the operating limit of the equipment. Failure to adequately prepare site could result in damage to equipment or possible injury or death personnel.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC).

1. Do not operate the boat engines on Bridge Erection Boat (BEB), unless the boat stern is in the water.

2. Water safety procedures must be followed. All personnel will wear Personal Flotation Devices (PFDs), and a safety boat will be employed.

3. Leaders must conduct a deliberate risk assessment prior to training this drill.

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT

**Coaching Point:** Soldiers must be familiar with the operation of the transporters and the BEB.

**TASK STEPS**

1. The drill begins when the transporter with the boat arrives at the Engineer Equipment Park (EEP).

2. The boat crew prepares the boat for launching.

a. The transporter operator removes all the boat tie-downs on the transporter and places them on the transporter walkway.

b. The boat assistant operator—

(1) Removes the rear stanchion on the upstream side of the boat by pulling out the retaining pin, placing the stanchion on the transporter's walkway, and then reinstalling the retaining pin.

(2) Installs the drain plug in the boat.

3. The boat crew and the transporter crew don PFDs.

4. The boat crew mounts the boat.

5. The transporter operator mounts the transporter and moves it and the boat to the launch site.

6. The ground crew guides the transporter operator in backing the transporter into the water until the water reaches the midpoint of the rear-wheel hub and then launches the boat.

7. The transporter operator with an M945—

a. Backs the transporter into the water, as guided by the ground crew hand-and-arm signals, until the water reaches the midpoint of the rear-wheel hub.

b. Engages the parking brake and the electric brake, then places the transmission into neutral.

c. Engages the hydraulic Power Take-Off (PTO).

d. Engages the hand throttle to operate the engine at 1,700 Revolutions Per Minute (RPM).

e. Ensures that the cradle safety latch is not engaged.

f. Positions himself on the operator's control stand. Using the boom controls, he disengages the forward locking pin and raises the boom about 30 inches.

g. Pays out the boom cable to allow the cradle and stern to slide into the water.

8. The transporter operator with an M1977—

a. Backs the transporter into the water, as guided by the ground crew hand-and-arm signals, until the water reaches the midpoint of the rear-wheel hub.

b. Engages the parking brake and the electric brake, then places the transmission into neutral.

c. Engages the hydraulic PTO.

d. Turns the mode selection switch to AUTO SEQUENCE.

e. Turns the HIGH IDLE switch to the ON position.

f. Moves the joystick to the UNLOAD position and holds it until the water indicator line on the A-frame of the cradle is halfway submerged.

g. Signals the boat operator when the boat is floating.

9. The boat operator starts the engines, one at a time.

Note: For the BEB, start the engines as soon as the stern of the boat is afloat.

10. The ground crew continues to pay out the rear-winch cable, adjusting the boom elevation until the cradle rests on the river bottom.

Note: Six inches to two feet of the rear stanchion should be showing above the waterline.

11. The boat operator engages the transmission and applies forward throttle slightly to provide sufficient slack in the dolly cables to ease their release.

12. The boat assistant operator detaches the restraining cables from the boat and attaches cable hooks to the forward stanchion eyes on the cradle.

13. The boat operator backs the boat until it clears the cradle.

14. The ground crew recovers the cradle.

15. The transporter operator—

a. Disengages the PTO.

b. Disengages the parking brake and the electric brake.

c. Moves the transporter from the water.

16. The boat assistant operator raises and secures the mast on the boat.

17. The transporter operator moves from the launch site to the EEP.

18. The boat crew moves from the launch site to their next mission.

Note: THE DRILL ENDS.

REFERENCES:

FM 5-34
TC 5-210
TM 5-2090-202-12&P

(Asterisks indicates a leader performance step.)

**TASK MEASURES**

1. The drill began when the transporter with the boat arrived at the EEP.

2. The boat crew prepared the boat for launching.

3. The boat crew and the transporter crew donned PFDs.

4. The boat crew mounted the boat.

5. The transporter operator mounted the transporter and moved it and the boat to the launch site.

6. The ground crew guided the transporter operator in backing the transporter into the water until the water reached the midpoint of the rear wheel hub, and then launched the boat.

7. The transporter with an M945-

a. Backed the the tranporter into the water, as guided by the ground crew hand and arm signals, until the water reached the midpoint of the rear wheel hub.

b. Engaged the parking brake and the electric brake, then placed the transmission into neutral.

c. Engaged the hydraulic PTO.

d. Engaged the hand throttle to operate the engine at 1,700 RPMs.

e. Ensured that the cradle safety latch was not engaged.

f. Positioned himself on the operator's control stand, used the boom controls to disengage the forward locking pin, and raised the boom about 30 inches.

g. Paid out the boom cable to allow the cradle and stern to slide into the water.

8. The transporter operator with an M1977-

a. Backed the tranporter into the water, as guided by the ground crew hand and arm signals, until the water reached the midpoint of the rear wheel hub.

b. Engaged the parking brake and the electric brake, then placed the transmission into neutral.

c. Engaged the hydraulic PTO.

d. Turned the mode selection switch to AUTO SEQUENCE.

e. Turned the HIGH IDLE switch to the ON position.

f. Moved the joystick to the UNLOAD position and held it until the water indicator line on the A frame of the cradle was halfway submerged.

g. Signaled the boat operator when the boat was floating.

9. The boat operator started the engines, one at a time.

10. The ground crew continued to pay out the rear winch cable, adjusted the boom elevation until the cradle rested on the river bottom.

11. The boat operator engaged the transmission and applied forward throttle slightly to provide sufficient slack in the dolly cables to ease their release.

12. The boat assistant operator detached the restraining cables from the boat and attached cable hooks to the forward stanchion eyes on the cradle.

13. The boat operator backed the boat until it cleared the cradle.

14. The ground crew recovered the cradle.

15. The transporter operator-

a. Disengaged the PTO.

b. Disengaged the parking brake and the electric brake.

c. Moved the transporter from the water.

16. The boat assistant operator raised and secured the mast on the boat.

17. The tranporter operator moved from the launch site to the EEP.

18. The boat crew moved from the launch to their next mission.

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**Unit Instructions:** a. Resources

(1) Bridge transporter

(2) Boat Cradle

(3) Bridge Erection Boat (BEB)

b. Training Site. A water launch site that meets the minimum site requirements for launching a BEB.

c. OPFOR. None

d. Unit instructions. Soldiers must be able to operate the bridge transporter and the bridge erection boat safely.

**Talk:**

**a.Orientation:** This drill is designed to provide the crew with the basic skills to safely launch a BEB. This drill provides training primarily for the boat operator, assistant boat operator and transporter operator.

**b.Safety:** 1. Ensure that all Soldiers are equipped with the proper Personal Flotation Device (PFD).
2. Ensure that all boat tiedowns are properly removed and stowed.
3. Ensure that the BEB drain plug is properly installed.

**c.Demonstration:** (optional). If a nearby unit has successfully performed this drill, have that unit demonstrate it. During the demonstration, explain what is being done and why, using the performance measures as a guide. After the demonstration, summarize the actions performed by the demonstrating unit.

**d.Explanation:** (1) Refer to the performance measures and explain what each crew member is required to do upon hearing the initiating cue.
(2) Ensure that everyone knows his duties and responsibilities pertaining to each portion of the drill.
(3) Ask if there are any questions pertaining to the drill. If so, ensure that all questions are correctly answered before beginning to train the drill.

**e.Unit Instructions:** a. Resources
(1) Bridge transporter
(2) Boat Cradle
(3) Bridge Erection Boat (BEB)
b. Training Site. A water launch site that meets the minimum site requirements for launching a BEB.
c. OPFOR. None
d. Unit instructions. Soldiers must be able to operate the bridge transporter and the bridge erection boat safely.

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**Walk:**

1. The section leader ensures that all teams can perform their assigned tasks by conducting a walk-through of all drill tasks. Time standards are disregarded for the walk-through instructions.
2. Refer to the performance measures and have each crew member perform his part as the leader talks him through.

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**Run:**

**a.Run-Through Instructions:** The crew should practice this drill until they can perform it according to standard without notes. The initial run-through exercise should be conducted slowly.

**b.Coaching Point:** Soldiers must be familiar with the operation of the transporters and the BEB.

**c.Performance Instructions:** When the crew can perform this drill according to the standard, they should be evaluated by the unit leader.

**Equipment (LIN)**

| Step ID | LIN | Nomenclature | Qty |
|---|---|---|---|
| | C34199 | CRADLE BOAT BRDG ERCT | 1 |
| | T91308 | TRK PAL LO M1977A2 | 1 |
| | B25476 | BOAT BRDG ERCT | 1 |
| | C33925 | CRDL IMP BT (IBC) M14 | 1 |

**Materiel Items (NSN)**

| Step ID | NSN | LIN | Title | Qty |
|---|---|---|---|---|
| No equipment specified | | | | |

**TADSS**

| Step ID | TADSS ID | Title | Product Type | Qty |
|---|---|---|---|---|
| No materiel item specified | | | | |

**Supporting Individual Tasks**

| Step ID | Task ID | Status | Task Title |
|---|---|---|---|
| | 052-198-1202 | Approved | Operate the Bridge Erection Boat |
| | 052-198-1204 | Approved | Launch Bridge Erection Boat M945 |
| | 052-198-1205 | Approved | Retrieve Bridge Erection Boat M945 |
| | 052-198-1321 | Approved | Launch a Bridge Erection Boat (M1977) |
| | 052-198-1322 | Approved | Retrieve a Bridge Erection Boat (M1977) |
| | 052-198-2100 | Approved | Direct Launching of a Bridge Erection Boat |
| | 052-198-2102 | Approved | Direct Retrieval of a Bridge Erection Boat |

**Prerequisite Individual Tasks**

| Step ID | Task ID | Status | Task Title |
|---|---|---|---|
| | 052-198-1202 | Approved | Operate the Bridge Erection Boat |
| | 052-198-1204 | Approved | Launch Bridge Erection Boat M945 |
| | 052-198-1260 | Approved | Drive a Bridge Transporter (M945) |
| | 052-198-1321 | Approved | Launch a Bridge Erection Boat (M1977) |
| | 052-198-1326 | Approved | Drive a Bridge Transporter (M1977) |
| | 052-198-2100 | Approved | Direct Launching of a Bridge Erection Boat |

**Supporting Collective Tasks**

| Step ID | Task ID | Status | Title |
|---|---|---|---|
| | 05-3-0621 | Approved | Construct a Ribbon Raft |
| | 05-3-0622 | Approved | Conduct Rafting Operations |
| | 05-3-0623 | Approved | Construct a Ribbon Bridge |

**Prerequisite Collective Tasks**

| Step ID | Task ID | Status | Title |
|---|---|---|---|
| No pre-requisite collective tasks specified | | | |

**Supporting Drill Tasks**

| Step ID | Drill ID | Status | Drill Title |
|---|---|---|---|
| No supporting drill tasks specified | | | |

**OPFOR**

| Task Number | Title | Status |
|---|---|---|
| No supporting OPFOR tasks specified | | |

**REFERENCES**

| Step Number | Reference ID | Reference Name | Required | Primary |
|---|---|---|---|---|
| | FM 5-34 | ENGINEER FIELD DATA | Yes | No |
| | TM 5-1940-277-10 | Operator's Manual for Boat, Bridge Erection, Twin Jet, Aluminum Hull, Models USCSBMK-1 (NSN 1940-01-105-5728) and USCSBMK-2 (1940-01-218-9165). TM 1940-10/1. | Yes | Yes |
| | TM 5-2090-202-12&P | OPERATORS AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR CRADLE, BRIDGE ERECTION BOAT, TWIN JET, ALUMINUM HULL (NSN 2090-01-106-9789) {TM-2090-12&P/1A} (REPRINTED W/BASIC | Yes | No |

**Training Setup**

a. Resources

(1) Bridge transporter

(2) Boat Cradle

(3) Bridge Erection Boat (BEB)

b. Training Site. A water launch site that meets the minimum site requirements for launching a BEB.

c. OPFOR. None

d. Unit instructions. Soldiers must be able to operate the bridge transporter and the bridge erection boat safely.

**Training Facilities**

| Facility ID | Facility Name | Facility Type |
|---|---|---|
| 15930 | Ferry Slip | F15900-Waterfront Operations Facilities |
| 85730 | Training Area Bridge | F85730-Bridges, Training Area |

**DODIC**

| DODIC | Name | Qty |
|---|---|---|
| No DODIC | | |

**Associated Documents**

| Media ID | Media Type | Title | SubTitle |
|---|---|---|---|
| No Associated Documents | | | |

**GLOSSARY TERMS**

| Glossary Term | Definition |
|---|---|
| ARTEP | Army Training and Evaluation Program |
| EEP | engineer equipment park |
| FM | field manual; frequency modulatedmodulation; flare multiunit; force module |
| MTOE | modified table of organization and equipment |
| MTP | mission training plan; military occupational specialty (MOS) training plan; mission tasking packet |
| PFD | personal-flotation device |
| PMCS | preventive maintenance checks and services |
| PTO | Power Take Off |
| SM | Soldier's manual; service member |
| STP | shielded twisted pair; Soldier Training Publication; spanning-tree protocol; Soldier training plan |
| T&EO | training and evaluation outline |
| TC | technical coordinator; training circular; track commander; tank commander; tactical commander; technical configuration |
| TG | trainer's guide; training guidance |
| TOE | table of organization and equipment |

**ACRONYMS AND ABBREVIATIONS**

| Acronym/Abbreviation | Definition |
|---|---|
| BEB | bridge erection boat |
| EEP | engineer equipment park |
| FM | field manual; frequency modulatedmodulation; flare multiunit; force module |
| MTOE | modified table of organization and equipment |
| PFD | personal-flotation device |
| PMCS | preventive maintenance checks and services |
| PTO | Power Take Off |
| SM | Soldier's manual; service member |
| STP | shielded twisted pair; Soldier Training Publication; spanning-tree protocol; Soldier training plan |
| T&EO | training and evaluation outline |
| TC | technical coordinator; training circular; track commander; tank commander; tactical commander; technical configuration |
| TG | trainer's guide; training guidance |
| TOE | table of organization and equipment |